Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
To Ensure Compatibility with	)	
Enhanced 911 Emergency Calling Systems	)	
	)	

SPRINT PCS SUPPLEMENTAL PHASE II IMPLEMENTATION REPORT AND REQUEST FOR TEMPORARY AND LIMITED WAIVER

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EXECUTIVE SUMMARY

When Sprint PCS submitted its initial Phase II Implementation Report nine months ago, GPS-enabled handsets and the supporting network infrastructure were largely theoretical concepts. By October 1, 2001, Sprint PCS will have taken a number of concrete actions to implement Phase II services. Specifically, it plans to have: 1) introduced at least one GPS handset model in commercial quantities; 2) installed new national platforms to perform location calculation and routing based on these handsets; 3) tested new switching software to support enhanced location technology (for at least one switch vendor); 4) completed interoperability testing of the new location infrastructure; and 5) conducted a First Market Application in the State of Rhode Island, launching the first ever aided GPS enhanced 911 system, which is expected to meet or exceed the accuracy requirements set by the Commission. Further, Sprint PCS is currently on course to introduce over five million GPS-enabled handsets before the end of 2002 and complete the conversion of all new handset models to GPS-enabled models by December 31, 2002.

Despite these dramatic accomplishments, Sprint PCS will not be in a position to comply fully with the rules or complete a simultaneous, national roll out of enhanced 911 location systems by October 1, 2001. Due to vendor delays and other factors beyond Sprint PCS' control, Sprint PCS requires a limited and temporary waiver of certain of the Phase II requirements:

Network Infrastructure. Nortel delays in providing the necessary switching software to support Phase II enhanced 911 services will prevent Sprint PCS from deploying these services within the Commission's deadlines. In addition, although at least one Lucent market should be Phase II ready by the October 1, 2001, deadline, complete conversion of all Lucent markets is not expected until 2002.

Handsets. Sprint PCS expects to meet the two most important new handset activation requirements: begin selling GPS handsets by October 1, 2001, with 100% of all new handsets sold being GPS compatible by December 31, 2002. Sprint PCS may be unable to meet the two interim new handset activation requirements (25% of all new handsets by December 31, 2001 and 50% of all new handsets by June 30, 2002) due to the conversion of the Sprint PCS network to 3G technology.

Deployment Schedule. Due to the sheer volume of PSAP requests, and the complexity of their installation, Sprint PCS will be unable to implement enhanced 911 systems within six months of every request received. Sprint PCS proposes herein a preliminary deployment schedule to allow a phased and rational roll out of services.

Although not directly related to Sprint PCS' obligations to implement enhanced 911 location services, Sprint PCS also directs the Commission's attention to a potential bottleneck in the E911 network that could delay delivery of these services to the public safety officials for which they were designed.

Over a year ago, industry and public safety negotiated a set of standards for the manner in which Phase II services would be delivered. An important part of those standards was the implementation of new interfaces on the existing landline ALI databases that would accommodate wireless data. Unfortunately, the LECs who manage the ALI databases on behalf of public safety do not appear to be implementing the necessary upgrades to their systems. The efforts of PSAPs and wireless carriers will be in vain unless these necessary LEC modifications are made, and made timely. Sprint PCS urges the Commission to give this ALI database upgrade issue its immediate attention.

Although filing a Request for Temporary and Limited Waiver, Sprint PCS, through this filing, demonstrates that it remains committed to the goal of public safety and a leader in providing cutting edge services to its subscribers.

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SPRINT PCS SUPPLEMENTAL
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Sprint Spectrum L.P. d/b/a Sprint PCS ("Sprint PCS") hereby updates the Joint Sprint PCS Phase II Implementation Report submitted on November 9, 2000.[1] This Supplemental Implementation Report provides the Commission and the public safety community with additional information regarding the steps Sprint PCS has taken to meet the Phase II E911 mandate, the challenges Sprint PCS faces in implementation, and the Company's continued plans for compliance with the FCC's E911 rules. Although implementation issues continue to exist, Sprint PCS is pleased to inform the Commission that it has made substantial progress toward Phase II deployment and expects to meet many of the Commission's deadlines, as well as the Commission's accuracy requirements.

When Sprint PCS submitted its Implementation Report in November of 2000, no commercially available GPS enabled handsets existed and the supporting network

[1] *See* Joint Sprint PCS Phase II Implementation Report, CC Docket No. 94-102 (November 9, 2000) ("Phase II Implementation Report"). This Supplemental Phase II Implementation Report is filed on behalf of all entities identified in Appendix A of the Phase II Implementation Report.

infrastructure was largely theoretical. By the October 1, 2001, deadline, Sprint PCS plans to have finished testing and installing the necessary network infrastructure to support Phase II service in at least one market and will have at least one GPS handset model available for sale in commercial quantities. Additional GPS handset models will follow shortly thereafter and Sprint PCS anticipates purchasing more than five million GPS enabled handsets before the end of 2002. Sprint PCS' Phase II E911 systems are expected to meet or exceed the precise accuracy requirements set by the Commission.

Sprint PCS still faces many hurdles, however, that will prevent a national, simultaneous, rollout of these advanced services on October 1, 2001. Sprint PCS is also concerned that LEC ALI databases are not being upgraded to support Phase II wireless services. To the extent Sprint PCS is unable to deploy Phase II in every PSAP market which has requested service, and to the extent vendor delays and other factors, such as LEC preparedness, prevent compliance with all FCC deadlines, Sprint PCS hereby seeks a limited and temporary waiver of the Commission's E911 rules.

I. INTRODUCTION

In its Phase II Implementation Report, Sprint PCS notified the Commission it was pursuing a handset-based solution, using assisted GPS to meet the Commission's accuracy requirements.[2] In addition, Sprint PCS provided a list of milestones that must be completed, either by itself or its vendors, in order to meet the Commission's mandate. In its filing, Sprint PCS advised the Commission of its dependence upon manufacturers to provide the equipment and software necessary to deploy Phase II services within the

[2] Sprint PCS initially determined that Advanced Forward Link Triangulation ("AFLT") was the most cost effective and fastest manner in which to meet the FCC's Phase II mandate. Because the Commission rejected this approach, however, Sprint PCS agreed to pursue assisted GPS to meet the FCC's requirements.

FCC's deadlines. Sprint PCS also advised that the administrative challenge to deployment would be substantial.

Sprint PCS has invested thousands of man-hours and tens of millions of dollars over the past year developing and installing a compliant Phase II technology. From network infrastructure to handset orders, Sprint PCS has made substantial progress and believes that it will have at least one market launched before the October 1, 2001, deadline. Sprint PCS will also have at least one handset model available by the deadline, with additional models following shortly thereafter. Significantly, Sprint PCS believes that 100% of its handsets will be GPS-enabled by the Commission's December 31, 2002, deadline and Sprint PCS anticipates introducing in excess of five million GPS enabled handsets into the market prior to that date.

There continue to be a number of technical and administrative hurdles to overcome, however, and Sprint PCS will be unable to provide service in additional markets, much less national deployment, by October 1, 2001. Certain network vendors have failed to provide the software necessary to collect and pass Phase II location data through the Mobile Switching Centers ("MSCs"). The volume of PSAP requests, as well as the widely scattered nature of these requests, creates serious administrative difficulties to deployment that are likely to slow a national roll out. In addition, GPS handset introduction is occurring during the conversion of Sprint PCS' network to 3G technology, thus limiting the number of available handset models. Accordingly, the interim activation targets set by the FCC may not be achievable. Finally, incumbent LECs do not appear to be ready to support the full functionality of Phase II wireless service as outlined in

national standards (TR-45 J-STD-036) that industry and public safety cooperatively developed over a year ago.[3]

Despite these difficulties, Sprint PCS plans to soon launch its First Market Application ("FMA") in the State of Rhode Island. This early launch will permit Sprint PCS to begin field-testing of Phase II prior to the October 1, 2001, deadline. Sprint PCS will then begin to rollout Phase II network infrastructure in additional markets beginning on October 1, 2001, and will continue this rollout over the following months.

In sum, while Sprint PCS continues to make significant progress and devote significant resources to Phase II development and implementation, it now appears reasonably certain that it will require a partial and temporary rule waiver, as follows:

1. FCC Rule 20.18(g)(2) specifies that carriers' network infrastructure must be capable of supporting Phase II service as early as October 1, 2001. As noted, Sprint PCS is scheduled to commence an FMA test in August with one of its major MSC vendors (Lucent Technologies). Assuming the FMA is successful, Sprint PCS will begin deploying additional Lucent markets on or shortly after the October 1 deadline. However, the complexity of the software conversion and the sheer number of PSAP requests make it impossible to convert all these MSCs to Phase II by October 1, 2001. Sprint PCS currently estimates that it will need four-to-five months to complete the Phase II conversion of all Lucent MSCs. This four-to-five month window is for the conversion of the MSC switching software only, not for full deployment of Phase II services. The

[3] *See* TR-45, Enhanced Wireless 9-1-1 Phase 2, J-STD-036 (July 11, 2000)("J-STD-036").

tentative launch schedule for Lucent markets is attached as Appendix A. Lucent MSCs represent approximately fifty percent of Sprint PCS' markets.[4]

Despite Sprint PCS service orders and regular follow-up correspondence, Sprint PCS' other primary MSC vendor, Nortel, has been unable to make the necessary Phase II modifications available to Sprint PCS for commercial deployment by the October 1 deadline.[5] While the delivery situation remains fluid, Sprint PCS is hopeful that the software modifications can be made available for testing later this year so that the Nortel MSCs can begin to be converted to Phase II by the end of the first quarter of 2002. Given the number of markets involved in its national network, Sprint PCS will also need a period of at least four-to-five months to phase in this vendor's switching software in all affected markets. Again, this period is for the installation of switching software only and not full Phase II deployment in every Nortel market. Once the software is available and testing has begun, Sprint PCS will provide the Commission with a more detailed launch schedule for the Nortel markets.

2. FCC Rule 20.18(g)(1) specifies that carriers must begin selling location-capable handsets by October 1, 2001 and thereafter meet certain activation levels (*e.g.*, 25% of all new handsets by December 31, 2001, 50% of all new handsets by June 30, 2002). As stated above, Sprint PCS expects to begin selling location-capable handsets by October 1. Sprint PCS also anticipates meeting the 100% activation rate by December 31, 2002. For the reasons discussed herein, however, it is unlikely that Sprint PCS will be able to meet the interim activation levels in the time frames currently specified in the

[4] Attached to this Supplemental Report, as Appendix B, is a spreadsheet showing which switch vendor supports which Sprint PCS markets.
[5] *See* Nortel Networks Verification attached as Appendix C.

rule. Sprint PCS does plan, however, to introduce over five million GPS-enabled handsets by December 31, 2002.

Sprint PCS will begin deploying the first phase of its 3G network later this year. While 3G will permit Sprint PCS to provide new high speed services to its customers (advancing current data speeds from 14.4 kbps to 144 kbps), 3G is even more critical to the expansion of voice capacity on the network. This increased capacity will permit fewer calls, including 911 calls, to be blocked or dropped. Unfortunately, the GPS handset chipsets that can take advantage of this new technology will not be available in sufficient handset quantities to meet the FCC's early activation rates and deadlines. Nonetheless, Sprint PCS would like to emphasize that it anticipates making available by October 1, 2001 at least one GPS-capable handset and will steadily increase the number of models with GPS capability from that date on, with 5,000,000 GPS handsets being purchased by the end of 2002. Moreover, Sprint PCS anticipates that 100% of its new handset models will be GPS enabled by December 31, 2002.

3. FCC Rule 20.18(g)(2) requires carriers to install any hardware and software necessary to support Phase II services within six months of a PSAP request. Even if the vendor and manufacturing difficulties outlined above are resolved, the volume of PSAP requests that must be processed and the accompanying custom network designs that must be installed, make it unlikely that Sprint PCS can engage in a simultaneous nationwide rollout of Phase II services based on PSAP requests received to date. Accordingly, Sprint PCS seeks a temporary waiver that permits Sprint PCS to prioritize implementation on a reasonable schedule. Sprint PCS has met with various public safety officials regarding deployment issues and has agreed to further consult with public safety representatives in

an effort to coordinate deployment with public safety priorities. Attached, as Appendix A, is a conditional rollout schedule, which attempts to set a realistic deployment timeline for requesting PSAPs in Lucent markets.

II. TECHNOLOGY OVERVIEW

In order to give context to the implementation issues associated with Phase II services, it is necessary to give a brief overview of the solution Sprint PCS is deploying. Sprint PCS is pursuing an aided Global Positioning Satellite ("GPS") solution. Aided GPS uses a combination of satellite information and signaling information used in Sprint PCS' CDMA network to calculate the location of the end user. The process can be roughly categorized into five areas: 1) Data Collection; 2) Network Transmission; 3) Location Calculation and Routing; 4) Delivery through the E911 network, and specifically the ALI database, and; 5) PSAP receipt. Each of these is discussed below.

A. Data Collection:

Aided GPS collects data from available satellite signals as well as information regarding the power received from surrounding base stations and other messaging data inherent in a CDMA network. To collect this data, the wireless handset must be modified to look for this information, including the addition of a receiver to hear satellite signals, and a modified chipset to process the data. The only chipset currently available in production quantities to perform this function is the Qualcomm 3300. However, because the 3300 does not support 3G technology, it will be substantially less desirable by the time it is deployed in commercially available handsets. The Qualcomm 5100 chipset will

have both 3G and GPS technology and handsets with both functionalities are expected to become available in 2002.

B. Network Transmission:

Once the handset collects the available data, the information must be passed through the network to a processing center. The network software that operates both the base stations and the switches must be modified to transfer these large amounts of information and respond to subsequent directions. Sprint PCS currently relies on two primary switch and base station manufacturers, Nortel and Lucent. Completing the necessary software upgrades for either manufacturer by the October 1, 2001 deadline will be a challenge. Nortel, however, is particularly far behind in its effort and deployment of the necessary software in Nortel switches will therefore be delayed.[6]

C. Location Calculation and Routing:

Upon receiving a 911 call, the switch will contact one of two redundant national platforms, which determine how the call will be routed and which will perform the actual calculation of the X and Y coordinates. The national platforms consist of two pieces of equipment.

1. Mobile Positioning Center (MPC). The MPC will be the primary interface between Sprint PCS' network and the E911 networks. It identifies the type of handset placing the call, determines the PSAP that should receive the call, and assigns the ESRK/pANI used in routing.

[6] *See* Nortel Verification attached as Appendix C.

2. Positioning Determining Equipment (PDE). The PDE is the calculator. It receives the information collected from the handset and network *via* the MPC, performs the necessary calculation, and computes the latitude and longitude.

Sprint PCS has purchased the MPC equipment and has begun testing the PDE software. Both pieces of equipment should be operational by the October 1, 2001, deadline.

D. Delivery through the E911 Network:

Once location is calculated and the appropriate PSAP identified, the information must be delivered through the LEC/PSAP infrastructure. In addition to the technical issues associated with the delivery of Phase I data, The Selective Router and ALI database must be capable of additional functions. Specifically the ALI database must be capable of pulling data from the MPC both to permit PSAPs to refresh location and to allow access to location information when it cannot be calculated within in the call set up time. In addition, industry standards require LEC systems to be capable of passing a confidence level to permit the PSAP to know the level of accuracy to expect on a given call. This permits the PSAP to determine, for example, whether the location being provided is based upon an extremely precise GPS calculation or is merely a default cell/sector calculation for a legacy handset. To date, the LECs have not developed systems that perform these functions or that are compliant with the industry standards developed for wireless enhanced 911, known as J-STD-036.

E. PSAP Readiness:

Finally, in addition to the LEC network issues, the PSAP must be prepared to receive the location information in the standard industry format. This may require modification of the PSAP CPE and/or network connections to be able to interpret and use X and Y coordinates and to be able to initiate requests for updates during a call. This process is at different stages within various PSAP jurisdictions nationwide.

III. PHASE II STATUS

In order to provide the Commission with a detailed overview of its compliance efforts and the areas within which problems have developed, the milestones identified in the Sprint PCS Implementation Report are outlined below, along with the current status of each item. To the extent that items are identified herein as potential areas of delay, Sprint PCS seeks a conditional waiver of the FCC's E911 rules. Sprint PCS will continue to implement Phase II services as outlined below and seeks a waiver only to the extent that the specific issues identified prevent compliance with all Commission rules governing Phase II implementation.

A. CURRENT STATUS OF SPRINT PCS MILESTONES

1. Project Planning: RFI/Technology Selection and RFP/Vendor Selection

Responsible Party: Sprint PCS.

Status: Completed.

Potential for Delay: None.

Summary of Actions Taken: Sprint PCS issued a Request for Information ("RFI") to twenty-four different location technology vendors on September 15, 1999. Sprint PCS collected data on network overlay solutions, handset solutions and hybrid

systems and participated in joint testing of various systems. Sprint PCS determined that Advanced Forward Link Triangulation ("AFLT") was the most cost-effective means of meeting the Phase II mandate. The FCC rejected this approach, however, due to its inability to meet the accuracy requirements of the Commission's rules. As a second choice, Sprint PCS elected to pursue an assisted GPS handset system. Sprint PCS then issued Requests for Proposals ("RFPs") to various vendors seeking pricing information and development timelines to deploy a GPS system. Based upon the responses to these RFIs and RFPs, Sprint PCS filed its plan of compliance with the FCC on November 9, 2000.

2. MSM 3300 ASIC available from Qualcomm: Engineering samples to Production Quantities

Responsible Party: Qualcomm.

Status: Partially Completed.

Potential for Delay: None identified to date.

Summary of Action Taken: Before handset vendors can design and develop a GPS based wireless telephone, the chip-set which provides the basic intelligence of the phone must be modified. Because Sprint PCS is a CDMA-based CMRS carrier, it relies primarily upon chip-sets developed by Qualcomm. Qualcomm currently has planned two chip-sets that will be capable of providing GPS location information in CDMA-based networks, the 3300 and the 5100. The 3300 is a second generation ("2G") chip set which has GPS capability added to it and is currently available for handset manufacturers. Sprint PCS, however, has begun its migration to third generation ("3G") technology. Accordingly, the 3300 will quickly become undesirable as Sprint PCS converts to 3G

technology. Phones based upon that chip-set will merely slow the 3G-conversion process. The 3G conversion is a necessary development path that will permit Sprint PCS to increase call capacity as well as data speeds. Despite these conflicts, Sprint PCS has requested the production of these handsets to meet the Commission's implementation deadline, and at least one model will be available by October 1, 2001.

Qualcomm has completed production of engineering samples of the 3300 chip-set and delivered them to manufacturers to develop handsets. Because the 3300 chip-set cannot provide 3G functionality, or any of the other advanced features planned for deployment in wireless networks, world-wide demand for these chip-sets, as well as the phones that incorporate them, is expected to be low. Despite the fact that this type of handset does not support Sprint PCS' conversion to 3G technology, Sprint PCS has committed to purchase commercial quantities of the 3300 based handsets by the October 1, 2001 deadline in order to meet the FCC's mandate.

3. Submit Detailed Plan to FCC

Responsible Party: Sprint PCS.

Status: Completed.

Potential for Delay: None.

Summary of Action Taken: Filing made on November 9, 2000 for Sprint PCS and all entities operating under the Sprint PCS brand.

4. MPC and PDE to be delivered to Sprint PCS test lab

Responsible Party: Multiple Vendors (Compaq, Signal Soft, Snaptrack, Lucent and Qualcomm).

Status: Partially Completed.

Potential for Delay: None identified to date.

Summary of Action Taken: Once handsets capable of collecting GPS signals and other network information are in place, network infrastructure must be available to interpret this data. The two primary components that perform these functions are the Mobile Positioning Center ("MPC") and the Position Determining Equipment ("PDE"). The MPC acts as the primary interface between the PSTN and 911 Service Provider networks. It identifies the type of handset placing the call, determines which PSAP should receive the call, designates which trunk group to which the switch should deliver the call and assigns the ESRK or PANI to be used in routing. The PDE is the "calculator." It receives all of the information collected from the handset and network by the MPC and performs the actual location calculation and conversion into latitude and longitude.

Sprint PCS completed the purchase of the MPC computers from Compaq in December of 2000 and has installed two redundant MPCs as national platforms located in Houston (Fallstone), Texas and Lansing, Michigan. In addition, Sprint PCS has signed a contract with Signal Soft to provide the necessary software to run the MPC. That software was delivered to the Sprint PCS Systems Testing and Integration Center ("STIC lab") in December of 2000, and is currently being tested. Population of the Coordinate Routing Data Base ("CRDB"), which contains digitized PSAP boundary information, trunk and routing data, PANI/ESRK ranges and other base information, will depend upon receipt of timely information from PSAPs or the transfer of data from Sprint PCS' existing Phase I vendor, Intrado Inc.

Sprint PCS has taken delivery of PDE software and is currently testing that software in its testing laboratory. Contract negotiations with the PDE vendor have been completed and deployment of the PDE and MPC do not appear to be a risk to timely Phase II deployment.

5. Lucent MSC/BSC Software to be Delivered to Sprint PCS test lab

Responsible Party: Lucent.

Status: Completed.

Potential for Delay: Universal deployment unlikely by October 1, 2001.

Summary of Action Taken: Even in an assisted GPS handset solution, modifications must be made to the existing network infrastructure. As discussed above, two new national platforms must be created to perform location calculations (the PDE) and to make intelligent routing and verification decisions (the MPC). In addition, the existing switch infrastructure must be modified to collect and pass information from the handsets to the PDE and MPC. This requires that the manufacturers of Sprint PCS' switch and base station infrastructure create new software to control, collect and route data from the handsets.

Sprint PCS currently operates three different types of switches, Lucent, Nortel, and Motorola. Nortel switches are currently replacing the Motorola switches and accordingly, by first quarter 2002, all of Sprint PCS' network will utilize either Lucent or Nortel switching.[7]

Lucent has delivered a software patch to perform the Phase II data collection functions in the switch. When initially delivered, that software demonstrated a number of

[7] *See* Appendix B.

failures in the Sprint PCS testing facilities. This is common in the testing phase, and is why lab testing is an essential part of the deployment process. Once the software failures have been thoroughly corrected, and the updated software provided to the Sprint PCS lab, it will be re-tested. This process, which always occurs when software this complex is changed, normally takes several months. Once the failures are fixed and re-tested, and assuming no further failures, Sprint PCS will begin to deploy the software upgrades to its Lucent switches throughout its network. The testing process is moving forward as anticipated and Sprint PCS believes it will be able to commercially deploy in at least one market by October 1, 2001.

6. Nortel BSC/MSC software to be delivered to Sprint PCS test lab

Responsible Party: Nortel.

Status: Not Completed.

Potential for Delay: Deployment of Nortel Software will not occur in time to meet the deadlines specified in the rules, and software deployment in Nortel switches may not begin until the end of the first quarter of 2002.

Summary of Action Taken: As discussed above, Phase II cannot be deployed until the switch software has been modified to collect and pass the necessary information from the handsets. In turn, this is dependent on production and commercial availability of product from third party vendors, in this case Nortel. Upon selecting its Phase II compliance strategy, Sprint PCS requested that Nortel begin immediate development of the necessary switch software and set a delivery date of January 1, 2001. Delivery of the software by this date would permit testing and deployment within the FCC deadlines. Despite Sprint PCS efforts and inquires, Nortel has indicated that it cannot meet Sprint

PCS requested deadline, and Nortel has slipped its delivery date on several occasions. Sprint PCS has communicated regularly with Nortel regarding this matter and has pushed for timely delivery of the necessary software.

In its most recent communication to Sprint PCS, Nortel indicated delivery would not occur until summer of 2001. In light of this substantial slippage, which is beyond the control of Sprint PCS, the Sprint PCS Nortel markets will *not* be ready for launch by October 1, 2001.[8] Depending upon the final delivery date to the Sprint PCS lab and the time required to correct software errors, deployment may not begin until the first quarter of 2002.[9] Sprint PCS will continue to work with Nortel to facilitate software delivery and testing at the earliest possible date.

7. IS-801 Interoperability testing for both AFLT & Assisted GPS at Sprint PCS Test Lab

Responsible Party: Sprint PCS.

Status: In progress.

Potential for Delay: The lack of commercially available handsets and the delays associated with switch software development have made testing of interoperability difficult. Sprint PCS remains optimistic, however, that such testing will be completed in time for deployment by October 1, 2001.

Summary of Action Taken: Once the switch software has been corrected and delivered to the lab and handsets are available, testing must be conducted to ensure that the devices are compatible and conform to the IS-801 interoperability standards. No commercial versions of GPS assisted handsets are available for testing. Nonetheless,

[8] *See* Appendix B for a detailed listing of Nortel Markets.
[9] *See* Nortel Verification at Appendix C.

Sprint PCS has begun preliminary testing with prototype handsets from Qualcomm that, in theory, will mimic the operations of those handsets to be delivered in the third quarter of this year. The proposed assisted GPS handset models to be launched on the Sprint PCS network this year have been successfully tested with Qualcomm/Snap Track PDE at the Qualcomm laboratory in San Diego

8. MSM 5100 ASIC available from Qualcomm QCT: Engineering Samples to Production Quantities

Responsible Party: Qualcomm.

Status: Engineering samples of the 5100 were distributed to licensees in the spring of 2001. Production quantities are expected to become available later this year.

Potential for Delay: None identified to date.

Summary of Action Taken: As noted above, the 5100 chip-set will have both GPS location capability and 3G functionality. Timely release and incorporation of these chip-sets into the next generation of handsets will be required in order to permit Sprint PCS to meet the FCC handset rates. Given the current release of production quantities in the summer of 2001, handsets are not expected to become available until the first quarter of 2002. The development cycle of a handset is typically six to nine months, but can be longer with new technologies such as 3G and GPS. Despite these concerns, Sprint PCS expects to complete the conversion to 5100 technology by the end of 2002, thus meeting the Commission's new handset activation requirement of 100% GPS handsets by December 31, 2002.

9. First Lucent Market Application for PDE & MPC

Responsible Party: Sprint PCS/Lucent.

Status: Future Action.

Potential for Delay: No jeopardy identified at this time.

Summary of Action Taken: As discussed above, the tight time frame for testing, de-bugging and deploying the current Lucent software will allow deployment in at least one market, but not all, by the FCC deadline of October 1, 2001. Sprint PCS currently plans an FMA in the State of Rhode Island prior to the FCC deadline. Sprint PCS chose Rhode Island because of its unique infrastructure, which does not use a LEC-based selective router. This permits Sprint PCS to test the technology before adding the additional complications that are likely to result when data is passed through the legacy facilities used by the landline carriers.

10. First Nortel Market Application for PDE & MPC

Responsible Party: Sprint PCS/Nortel

Status: Future Action

Potential for Delay: As discussed above, Nortel markets will not be ready by the FCC deadline.

Summary of Action Taken: *See* discussion at Item 6.

11. Nationwide deployment of MSC/BSC software

Responsible Party: Sprint PCS/Nortel/Lucent.

Status: Future Action.

Potential for Delay: Deployment will begin by October 1, 2001 but is not expected to be completed until the end of third quarter of 2002 and perhaps later depending upon the date Nortel software is released.

Summary of Action Taken: *See* discussion at Items 5 and 6 above.

12. First ALI Capable handset launch

Responsible Party: Samsung.

Status: In progress.

Potential for Delay: First handset model is expected to be available for commercial sale by the target date.

Summary of Action Taken: Sprint PCS has pushed its handset vendors to pursue development and production of handset models using the 3300 chip-set. Because 3300 chip-sets do not have 3G functionality, they will be less desirable by the time they are manufactured. Accordingly, they are not a long-term viable business option for handset vendors. Moreover, the purchase of these handsets is contrary to Sprint PCS' efforts to convert its network to 3G. Nonetheless, Sprint PCS has ordered, and Samsung has agreed to produce, these handsets for Sprint PCS to allow Sprint PCS to deploy location phones by the FCC's prescribed date. Long term penetration of ALI/Phase II capable phones, however, will depend upon the future development and deployment of 5100-based phones.

13. First ALI Capable Mobile sold: Ramp up to 25%

Responsible Party: Various Handset Manufacturers.

Status: Future Action.

Potential for Delay: For the reasons enumerated above, heavy penetration of the initial GPS handsets is not expected to occur by December of 2001. Only a few models are expected to be available and they will not be 3G compatible. In addition, because national deployment of E911 service is not possible at this time, Sprint PCS cannot market these phones as Phase II capable because it will not provide advanced location in

all areas of the Sprint PCS nationwide network. Customer confusion and misplaced reliance on location capability are of concern here.

Summary of Action Taken: Sprint PCS has ordered GPS handsets for release by the FCC deadline. Sprint PCS will continue to increase the number of handset models that incorporate GPS technology through out 2002 as more marketable 5100-based phones become available. Sprint PCS anticipates that it will be able to convert its entire handset line to GPS enabled phones by the end of 2002, thus meeting the 100% new handset activation deadline set by the FCC. During the interim conversion, however, it is unclear whether Sprint PCS will meet the earlier activation deadlines, including the 25% deadline of December 31, 2001.

14. ALI Capable handset sales Increase from 25% to 50%

Responsible Party: Various Handset Manufacturers.

Status: Future Action.

Potential for Delay: For the reasons enumerated above, penetration of the initial GPS handsets is not expected to begin growing to substantial levels until the second or third quarter of 2002. Once the 5100 chip set based phones become available, the levels are expected to increase, although precise levels are not currently known. Sprint PCS anticipates deploying over five million GPS based handsets by the end of 2002 and expects to complete the conversion to all GPS handsets by the end of 2002.

Summary of Action Taken: Sprint PCS has ordered GPS handsets for release by the FCC deadline. Sprint PCS remains committed to the release of an increasing number of GPS enabled models in an attempt to meet the FCC's timelines with ultimate compliance by the end of 2002.

15. First MSM 5100 (Qualcomm ASIC) ALI Capable handset Launch

Responsible Party: Various Handset Vendors.

Status: In Progress.

Potential for Delay: None identified to date.

Summary of Action Taken: Engineering samples of the 5100 have been released and manufacturers are currently working on designs for handsets that will incorporate this chip-set. Handsets that incorporate this new chip set are not expected to become available until the second quarter of 2002.

16. ALI Capable Handset sales increase from 50% to 100%

Responsible Party: Various Handset Manufacturers.

Status: Future Action.

Potential for Delay: For the reasons enumerated above, consumer acceptance of these handsets is unknown. Sprint PCS remains committed to the deployment of GPS technology and will have handsets available for the October 1, 2001, deadline. The number of models with GPS technology will continue to increase over the next year and Sprint PCS expects to meet the FCC's 100% deadline by December 31, 2002.

Summary of Action Taken: Sprint PCS has ordered GPS handsets for release by the FCC deadline. Sprint PCS remains committed to the release of an increasing number of models in an attempt to meet the FCC's timelines, including 100% of its models by December 31, 2002. Sprint PCS anticipates the purchase of over five million GPS enabled handsets by the end of 2002.

B. ADMINISTRATIVE CHALLENGES

Sprint PCS has ten full time employees whose only job is to process and facilitate the implementation of E911 services. In support of these individuals, Sprint PCS pays Intrado Inc. (formerly known as SCC Communications) to provide administrative, engineering and database support. In addition, engineers at the national, regional and local levels provide technical support, network design, network installation and testing for the 911 team. The subscriber equipment business unit devotes substantial resources working with vendors to develop GPS-based handsets that are both marketable (*i.e.*, within consumer form factor expectations) and within supportable price points (*i.e.*, affordability) to meet the compliance requirements set by the FCC.

Despite the commitment of substantial resources, Sprint PCS is completely inundated with requests for enhanced services. To date, Sprint PCS has received 2,563 requests for Phase I implementation.[10] 257 of these requests are for areas not served by Sprint PCS. 502 have been successfully launched. 1807 are still in the implementation process. Every implementation is a custom-built solution for the particular PSAP requesting service. Sprint PCS must continue devoting significant resources to these implementations during the development and deployment of the new Phase II technologies. Meeting the six-month implementation window for Phase I requests alone is a substantial hurdle.

Sprint PCS has received 64 requests for Phase II implementation as of May 31, 2001, which represents over 500 individual PSAPs. In areas where Phase II PSAPs overlap with Phase 0 or Phase I PSAPs, the later must be converted to the new national

[10] While 2,563 is a large number, it represents only about 1/3 of the PSAPs in the United States.

platforms that will perform location identification, even if they currently only receive basic 911 or Phase I 911. Accordingly, these 500 PSAPs may be converted into several times this number and effectively the pending requests amount to a national rollout. Sprint PCS cannot, despite its best efforts and commitment, have a simultaneous nationwide launch of Phase II services.

Almost every Phase II letter requests that Sprint PCS provide a personal contact to appear on site at the PSAP headquarters to discuss Phase II implementation.[11] Given the limited number of individuals qualified to discuss the complexities of Phase II implementation, Sprint PCS could use its entire six-month window just holding meetings with PSAPs between now and October 1, 2001. Although Sprint PCS has requested additional data from PSAPs to help plan and prioritize,[12] responses, to date, have been mixed.[13] Some PSAPs are less familiar than others with what is required to implement enhanced services and their knowledge of the existing technical infrastructure is limited at times.

Sprint PCS has been in contact with the national representatives of the public safety community to advise of Sprint PCS' status and efforts, and the company has attempted to begin a dialogue regarding an appropriate national roll-out schedule for Phase II deployment. Sprint PCS is hopeful this dialog will bear fruit and allow coordinated service deployment. Given internal implementation and resource issues, it

[11] *See* exemplary request letters attached as Appendix D.
[12] *See* Sprint PCS form letter sent to all Phase II requesters attached as Appendix E.
[13] *See, e.g*, response attached as Appendix F in which a PSAP merely repeats that it has "ORDERED" the service and reminds Sprint PCS that it sued the company for failing to meet its expectations for Phase I.

still will not be possible for Sprint PCS to design and implement custom solutions for every Phase II requester within the six-month window established by the FCC.

Attached to this Supplemental Report is a proposed schedule for a phased roll out of requesting Lucent markets. (Until Nortel delivers its Phase II software for testing, there is no baseline upon which to submit a similar roll out schedule for Nortel markets.) This proposed schedule is premised upon successful launch of Lucent software in Sprint PCS' MSCs, supporting LEC infrastructure and timely provision of necessary data from vendors and PSAPs. The speed of deployment is expected to increase as the technical issues are identified and solved in the earlier market applications.

C. ALI DATABASE READINESS

As the deadline for implementation approaches, Sprint PCS has made extensive inquiries into LEC readiness. Unfortunately, Sprint PCS is alarmed to learn that LECs have not taken the steps necessary to support Phase II wireless services and do not appear ready to proceed with those upgrades. Over a year ago, the industry and public safety completed negotiations of an interim standard for the implementation of Phase II services known as J-STD-036.[14] The Phase II systems being developed and deployed by wireless carriers are based upon this standard. J-STD-036 calls for two primary upgrades to the LEC/PSAP ALI database.[15]

The first database upgrade is the creation of an E2 interface, which would permit the ALI database to pull information from the wireless MPC. This "pull" function is critical to permit a PSAP to refresh location when a caller is moving. More significantly,

[14] *See* TR-45, Enhanced Wireless 9-1-1 Phase 2, J-STD-036 (July 11, 2000)("J-STD-036").

however, if the caller's location cannot be calculated within the standard call set up time, three to five seconds, then no location information can reach the PSAP if the E2 interface is not installed. Given the time required to acquire satellite signals, transfer large volumes of information regarding power levels and time delays, run a calculation on position and return that information over existing PSTN connections, it appears very likely that position calculation could take more than three to five seconds.

The second ALI database upgrade is the inclusion of a confidence level, which would provide the PSAP with what has become known as the "uncertainty factor." The uncertainty factor informs the PSAP whether the position information that is being conveyed is based upon good data, such as a GPS enabled handset with a view of three satellites and several base stations, or is merely a default location based upon cell and sector. Unless the PSAP is provided this uncertainty factor, it will not know whether it is dispatching services to a specific location, or if it is instituting a search of a two-mile area. This functionality is of particular importance to subscribers of Sprint PCS and other carriers that are deploying a handset based location technology.

Based upon the responses received to date, LECs are not making plans to upgrade their ALI databases to support these functions. It is important to both Public Safety and the wireless carriers, that LECs upgrade their ALI databases on behalf of their PSAP customers to fully support Phase II services. The widely divergent and proprietary systems LECs have used to date have slowed tremendously the deployment of Phase I

[15] While the FCC made clear that the maintaining and upgrading of the ALI database is the responsibility of the PSAP, it is important to recognize that LECs are frequently the primary provider of these databases on behalf of the PSAP. *See* Letter to Marlys R. Davis, from Thomas J. Sugrue, dated May 7, 2001.

services and could subvert the efforts of wireless carriers to provide Phase II services if the LECs do not conform to the J-STD-036.

Because this issue promises to substantially undermine the efforts of PSAPs and wireless carriers to deploy Phase II services, Sprint PCS urges the FCC to initiate an immediate inquiry into LEC preparedness to ensure that existing ALI databases are being upgraded to support J-STD-036. As a wireless carrier, Sprint PCS has no direct relationship with the ALI database providers and cannot mandate an upgrade to these landline systems. If the FCC does not require LECs to proceed with such upgrades, the efforts outlined above may simply result in wasted resources and non-functioning systems.

IV. SPRINT PCS HAS DEMONSTRATED GOOD CAUSE FOR A LIMITED AND TEMPORARY WAIVER

As outlined above, Sprint PCS satisfies the standards that the Commission has established for a limited and temporary Phase II waiver.[16] The Commission recognized that there could be instances where technology-related issues would prevent the deployment of Phase II services by October 1, 2001, and that such waivers would be addressed on a case-by-case basis. It declared that waiver requests should be "specific, focused and limited in scope, and with a clear path to full compliance."

> Further, carriers should undertake concrete steps necessary to come as close as possible to full compliance (*e.g.*, selecting ALI technologies or vendors, timely placing orders for necessary equipment, performing other necessary preparatory work) and should document their efforts aimed at compliance in support of any waiver requests. Carriers seeking a waiver will be expected to specify the solutions they considered and explain why none could be employed in a way that complies with the Phase II rules. If

[16] *In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems,* Fourth Memorandum Opinion and Order, CC Docket 94-102 (released September 8, 2000), ¶¶ 42-45.

> deployment is scheduled but for some reason must be delayed, the carrier should specify the reason for the delay and provide a revised schedule.[17]

Sprint PCS has taken these concrete steps toward implementation and is continuing its compliance efforts. Sprint PCS made its technology choice at an early date and has pursued deployment of that technology choice aggressively. It placed timely orders with its vendors and has pushed its vendors to meet the FCC deadlines. MPC and PDE equipment has been purchased and installed in the network, the switching software has been ordered (and in the case of Lucent Technologies, is being tested), handsets have been ordered and should be delivered by the deadline, contact has been made with the LECs in an attempt to ensure they are taking the steps necessary to make the service available to PSAPs, and the administrative infrastructure has been put in place to process Phase II requests. Sprint PCS has expended millions of dollars and thousands of man-hours to meet the mandate, all as documented above.

Although Sprint PCS will not be able to deploy Phase II service in more than one market by October 1, 2001, Sprint PCS is on a clear path to compliance with the Phase II requirements. Despite its good faith implementation efforts, and largely due to vendor delays in making necessary Phase II switch software available to Sprint PCS, there will be a number of markets where Sprint PCS will not be Phase II capable by October 1, 2001. No matter what resources are made available, Sprint PCS cannot perform a simultaneous nationwide deployment of this service. In addition, it is unlikely that Sprint PCS will be able to meet the interim handset activation levels that the Commission has established, although it expects to ultimately meet the FCC's goal of 100% GPS-based handsets by December 31, 2002.

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[17] *Id.* at ¶44.

A rule waiver is appropriate "for good cause shown."[18] The Commission has recognized in the past that a waiver of Commission deadlines is appropriate when noncompliance "is due to circumstances beyond the licensee's control."[19] For example, the Commission entered repeated waivers of the TTY requirement for digital wireless systems because there was no solution available for carriers to implement.[20]

It is difficult at present for Sprint PCS to estimate with precision when it will be in full compliance with the Commission's Phase II rules. A firm schedule cannot be determined until it has an opportunity to test Nortel's Phase II software and the status of ALI database upgrades is known. Sprint PCS therefore recommends that beginning on November 1, 2001, and continuing until it is in full compliance, Sprint PCS submit quarterly reports to the Commission describing the status of its Phase II implementation efforts. Sprint PCS also intends to continue its discussions with public safety representatives concerning deployment and compliance issues.

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[18] 47 C.F.R. § 1.3.

[19] *McElroy Electronics,* 13 FCC Rcd 7291, 7295 ¶ 8 (1998). *See also 21st Century Telesis,* 15 FCC Rcd 25113 ¶ 18 (2000); *Norris Satellite,* 12 FCC Rcd 22299, 22303 ¶ 9 (1997); *Telephone Number Portability,* 12 FCC Rcd 7236, 7289 ¶ 92 (1997).

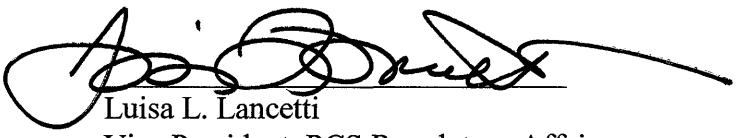
[20] *See, e.g., E911 Reconsideration Order,* 12 FCC Rcd 22665, 22695 (1997); *TTY Waiver Order,* 14 FCC Rcd 1700 (1998),

IV. CONCLUSION

For the foregoing reasons, Sprint PCS respectfully requests that the Commission grant Sprint PCS a limited and temporary waiver of the Phase II Enhanced 911 rules as outlined herein and subject to the quarterly reporting requirement described above.

Respectfully submitted,

SPRINT SPECTRUM L.P., d/b/a Sprint PCS



Luisa L. Lancetti
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401 9th Street, N.W., Suite 400
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202-585-1923

Charles W. McKee
General Attorney, Sprint PCS
6160 Sprint Parkway
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Overland Park, KS 66251
913-762-7720

July 30, 2001

Appendix A

Proposed Implementation start date	Current Status	MTA/ Market	PSAP Authority Request	PSAP State	PSAPs	Serving Switch Type	Phase 1 Routing Solution
10/1/01	**FMA Market Phase 1 -** 06/28/00	Boston / Boston	State of Rhode Island	RI	39	Lucent	CAS
11/15/01	**Phase 1 -** 03/31/00	Denver / Englewood 2	El Paso-Teller Counties	CO	2	Lucent	NCAS / SCC
12/1/01	**Phase 1 -** 04/26/00	Denver / Englewood 1	Larimer County ETA	CO	5	Lucent	NCAS
12/1/01	**Phase 1 -** 04/18/01	Baltimore / Wash - Washington DC	Anne Arundle County	MD	1	Lucent	NCAS
12/15/01	**Basic -**	Baltimore / Wash - Washington DC	City of Alexandria	VA	1	Lucent	Basic
1/2/02	**Basic -**	Baltimore / Wash - Washington DC	Arlington County	VA	1	Lucent	Basic
1/15/02	**Basic -**	Baltimore / Wash - Washington DC	Fairfax County	VA	1	Lucent	Basic
2/1/02	**Basic -**	Baltimore / Wash - Washington DC	Loudoun County	VA	1	Lucent	Basic
2/15/02	**Basic -**	Baltimore / Wash - Washington DC	Prince William County	VA	1	Lucent	Basic
3/1/02	**Basic -**	Wash-Balt / Shentel (Affil.)	City of Winchester (one of Piedmont Valley)	VA	1	Lucent	NCAS / CAS
3/15/02	**Basic -**	Wash-Balt / Shentel (Affil.)	Clarke county	VA	1	Lucent	ISOP / NCAS
3/15/02	**Basic -**	Seattle / Seattle	Pierce County	WA	9	Lucent	NCAS / SCC
4/1/02	**Basic -**	New York / Philidelphia	State of New Jersey	NJ	209	Lucent	CAS
4/15/02	**Basic -**	Buffalo / Buffalo	County of Orleans	NY	1	Lucent	CAS
5/1/02	**Basic -**	Buffalo / Buffalo	Genesee County Sheriff	NY	1	Lucent	CAS
5/15/02	**Basic -**	New York / New York	County of Suffolk PD	NY	5	Lucent	- solution not determined
6/1/02	**Basic -**	Bufffalo /Horizon (Affil.)	Chautauqua Co. Office of Sheriff	NY	1	Lucent	CAS
6/15/02	**Basic -**	Cheektowaga / Buffalo	Erie Co.	NY	25	Lucent	CAS
7/1/02	**Basic -**	Independent Wireless (Affil.)	Onondaga County (Syracuse)	NY	1	Lucent	NCAS
7/15/02	**Basic -**	Portland / Portland	State of Oregon 911 Program	OR	6	Lucent	NCAS

Proposed Implementation start date	Current Status	MTA/ Market	PSAP Authority Request	PSAP State	PSAPs	Serving Switch Type	Phase 1 Routing Solution
8/1/02	**Basic -**	Philadelphia / Philadelphia	Delaware County	PA	1	Lucent	- solution not determined
8/15/02	**Basic -**	Philadelphia / Shentel (Affil.)	County of York 911 Communication	PA	1	Lucent	NCAS
9/1/02	**Basic -**	Indianapolis / Ubiquitel (Affil.)	Lawrence County Sheriff	IN	1	Lucent	NCAS
9/1/02	**Basic -**	Greenville / Airgate (Affil.)	Spartanburg County	SC	1	Lucent	Hybrid-CAS
9/15/02	**Basic -**	Los Angeles / Los Angeles	State of CA / Los Angeles County	CA	1	Lucent	4 Level NCAS Plan
9/15/02	**Basic -**	Indianapolis/Ubiquitel (Affil.)	Vigo County	IN	1	Lucent	NCAS
10/1/02	**Basic -**	New Orleans / US Unwired (Affil.)	Lafayette Parish Comm. Dist.	LA	1	Lucent	Hybrid-CAS
10/1/02	**Basic -**	Baton Rouge / Gulf Coast Wireless (Affil.)	Jackson County Emegency Comm.	MS	1	Lucent	Hybrid-CAS
10/15/02	**Basic -**	Jeff City / Alamosa (Affil.)	Jasper County Emergency Services	MO	1	Lucent	CAS
10/15/02	**Basic -**	Jackson / US Unwired (Affil.)	Lamar County E-911	MS	1	Lucent	Hybrid-CAS
NA	**Basic -** They asked for a hold - do not want to provide required initial Phase I type functionality	Salt Lake / Salt Lake	Salt Lake VECC	UT	8	Lucent	- solution not determined
TBD	**Basic -** Stand alone ALI currently does not support Phase II requirements	Las Vegas / Las Vegas	Henderson Police Department	NV	1	Lucent	- solution not determined

MTA/Market	Vendor
Albany	Lucent
Albuequerque NM	Nortel
Appleton WI	Nortel
Atlanta	Nortel
Austin	Nortel
Baton Rouge	Lucent
Beaver Creek	Lucent
Birmingham	Nortel
Boise	Lucent
Boston	Lucent
Buffalo	Lucent
Charleston	Lucent
Charlotte	Motorola
Chicago	Nortel
Chillicothe	Motorola
Cincinnati	Motorola
Cleveland	Nortel
Col Springs CO	Nortel
Columbia	Lucent
Columbus	Nortel
Connecticut	Lucent
Dallas	Nortel
Davenport	Nortel
Denver	Lucent
Des Moines	Nortel
Detroit	Lucent
El Paso TX	Nortel
Erie	Nortel
Evansville	Lucent
Fort Myers	Nortel
Fort Wayne	Nortel
Greenville	Lucent
Gridley(Illinois)	Nortel
Hawaii	Motorola
Houston	Nortel
Indianapolis	Nortel
Jackson(Mississippi)	Lucent
Jacksonville	Nortel
Jefferson City (Missouri)	Lucent
Kansas City	Nortel
Kentwood(Illinois)	Lucent
Knoxville	Motorola
Lansing	Lucent
Laredo TX	Nortel
Las Vegas	Lucent
Little Rock	Nortel
Londonderry	Lucent
Los Angeles	Lucent
Louisville	Nortel
Lubbock TX	Nortel
Memphis	Nortel

Miami	Nortel
Milwaukee	Lucent
Minneapolis	Nortel
Montgomery	Lucent
Nashville	Nortel
New Orleans	Nortel
New York City	Lucent
Oklahoma City	Nortel
Omaha	Nortel
Orlando	Nortel
Philadelphia	Lucent
Phoenix AZ	Nortel
Pittsburgh	Lucent
Portland	Lucent
Puerto Rico	Nortel
Raleigh	Motorola
Reno	Lucent
Richmond	Motorola
Rio Grande Valley	Nortel
Rochester	Lucent
Sacramento	Lucent
Salt Lake City	Lucent
San Antonio	Nortel
San Diego	Lucent
San Francisco	Lucent
Santa Maria	Lucent
Seattle	Lucent
Shreveport	Lucent
Spokane	Lucent
St. Cloud (Minnesota)	Lucent
St. Louis	Nortel
Tampa	Nortel
Washington DC	Lucent
Waynesboro	Motorola

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
To Ensure Compatibility with	)	
Enhanced 911 Emergency Calling Systems	)	
	)	

NORTEL NETWORKS VERIFICATION

COMES NOW, Nortel Networks ("Nortel"), by and through its undersigned representative, and hereby makes the following Verification in support of Sprint PCS' Phase II Implementation Report and Conditional Waiver Request:

1. Nortel is a major manufacturer and vendor of wireless telephone switching and base station equipment. Nortel currently provides such equipment to Sprint PCS in several regions of the United States.

2. Nortel is in the process of developing expanded switching software that will permit wireless switches to collect and process assisted GPS information for use in Phase II Enhanced 911 systems. Although Sprint PCS originally sought deliver of such software in January of 2001, Nortel has not yet completed work on this software and release is not expected until July of 2001.

3. Once the software upgrade is released in July, the process of correcting software errors will begin in Sprint PCS' test lab. Following this period of lab testing, a First Market Application will be conducted to ensure that the software continues to perform correctly in the field. Finally, once this field-testing is completed, the software will be released for general loading in all Sprint PCS MSCs.

4. Given current expected release dates and necessary lab and field-testing, widespread deployment of Nortel's upgraded software is not expected to begin until the first quarter of 2002.

I hereby verify that the foregoing is true and correct, and that I have the authority to make this verification on behalf of Nortel Networks.

Name: Randy Dodd
Title: Major Account Vice President, Sprint

July 19, 2001

WASHINGTON COUNTY
DEPARTMENT OF EMERGENCY MANAGEMEN
2615 Brink Drive, Suite 104
Fayetteville, Arkansas 72701
Telephone 444-1722
911 Operations 444-1721
Fax 444-1786

911

JERRY HUNTON
County Judge

JOHN C. LUTHER
Coordinator

04/04/01

Sprint PCS
C/O Ms. Becky Hund
11880 College Blvd.
Overland Park, KS 66210

RE: Phase II Wireless 9-1-1 Service Request

In compliance with the FCC Rules and Orders the wireless carriers are to provide Phase II of Wireless 9-1-1 Service within six months of a request from a 9-1-1 authority. This letter is our official request for you to implement Phase II Service in the four PSAPS in Washington County.

I suggest that we schedule a meeting with your 9-1-1 manager within the next two weeks at my office to begin the implementation process. Please ask that your 9-1-1 manager contact me within a week to set up a meeting date and provide me information about your staff members that will be attending.

This meeting is important to assist us in understanding your Phase II plans and to be certain that we are doing our part to assist your implementation. We expect to discuss such issues as timelines for deployment, responsibilities, and discussion about the characteristics of the location technology that you have selected.

We plan to also request representatives of our local exchange carrier and equipment vendors to attend the meeting and discuss important network issues and technical issues.

I am looking forward to working with you in this project. If you have questions please call me 444-1721 or email me at Jluther@co.washington.ar.us.
Yours truly,

John Luther
Washington County –A Project 38 Model Community

CC: APCO Project 38
LEC representative
CPE vendor
CAD vendor

St. Tammany Parish Communications District #1

COL Glenn Farrar
Director

Pat Bagley
Assistant to the Director

EMERGENCY 911 When Seconds Count

April 4, 2001

Sprint PCS
Charles McKee, General Attorney
4900 Main, 11th Floor
Kansas City, MO 64112

RE: Phase II Wireless 9-1-1 Service Request

Dear Mr. McKee,

In compliance with the FCC Rules and Orders the wireless carriers are to provide Phase II of Wireless 9-1-1 Service within six months of a request from a 9-1-1 authority. This letter is our official request for you to implement Phase II Service in our service area.

I suggest that we schedule a meeting with your 9-1-1 manager within the next two weeks at my office to begin the implementation process. Please ask that your 9-1-1-manager contact me within a week to set up a meeting date and provide me information about your staff members that will be attending.

This meeting is important to assist us in understanding your Phase II plans and to be certain that we are doing our part to assist your implementation. We expect to discuss such issues as timelines for deployment, responsibilities, and discussion about the characteristics of the location technology that you have selected.

We plan to also request representatives of our local exchange carrier and equipment vendors to attend the meeting and discuss important network issues and technical issues.

I am looking forward to working with you in this project. If you have questions please call me 985-847-1223 or email me at gfar911@bellsouth.net.

Helping to keep St. Tammany safe, I am.

Yours truly,

Glenn Farrar
Director

CC APCO Project 38
LEC representative
CPE vendor
CAD vendor

520 Old Spanish Trail • Suite 405 • Slidell, LA 70458 • 504-847-1223 • Fax 504-847-2870

911

JACKSON COUNTY EMERGENCY

COMMUNICATIONS DISTRICT

Phone (228) 769-3240
Fax (228) 769-2578

708 Watts Avenue
Pascagoula, Mississippi 39567

April 4, 2001

Sprint PCS
Charles McKee
General Attorney
4900 Main, 11th Floor
Kansas City, MO 64112

Dear Mr. McKee:

re: Phase II Wireless 9-1-1 Service Request

In compliance with the FCC Rules and Orders, the wireless carriers are to provide Phase II of Wireless 9-1-1 Service within six (6) months of a request from a 9-1-1 authority. The authority on whose behalf this letter is being written is the Jackson County Sheriff's Department. This letter is our official request for you to implement Phase II Service in our service area.

Because I will be the contact person on this matter, I suggest that we schedule a meeting with your 9-1-1 manager within the next two (2) weeks at my office to begin the implementation process. Please ask your 9-1-1 manager to contact me within a week to set up a meeting date and provide me information about your staff members that will be attending.

This meeting is important to assist us in understanding your Phase II plans and to be certain that we are doing our part to assist your implementation. We expect to discuss such issues as timelines for deployment, responsibilities, and discussion about the characteristics of the location technology that you have selected.

We plan to also request representatives of our local exchange carrier and equipment vendors to attend the meeting and discuss important network issues and technical issues.
I am looking forward to working with you in this project. If you have questions please call me at (228) 769-3240.

Yours truly,

Pat Balduf, E 9-1-1 Director

APCO Project 38
BellSouth

Sprint

Sprint PCS®

11880 College Blvd
Overland Park, KS 66210

Susan Sherwood
911 Operations
Phone: (913) 315-2314
Fax: (913) 315-2988
Mail Stop: KSOPAM0101
Email: ssherw01@sprintspectrum.com

04/30/01

Carole L. Martin
Emergency Communications Director
5077 John Tyler Highway
Williamsburg, Virginia 23185-2501

Re: Request for Enhanced 911 Phase II Service.

Dear Ms. Martin:

Thank you for your interest in implementing wireless Enhanced 9-1-1 Phase II service. Sprint PCS is an industry leader in the development and deployment of E9-1-1 services and looks forward to working with you. As you know, a PSAP must have made the investments necessary to allow it to receive and utilize the data elements associated with the service, and the Local Exchange Carrier (LEC) infrastructure must support the service. This letter is our attempt to validate that the necessary pieces are in place to begin deployment and to help us coordinate our efforts in a manner that will result in the fastest deployment of Phase II services nationwide.

As a first step, it is necessary to deploy E9-1-1 Phase I before Phase II location data can be provided. This is for two reasons. First, implementation of Phase I will help establish a path for routing Phase II Data. Second, Phase I information will be the fall back provided if a location attempt fails. Sprint PCS does not require you to issue two separate requests for E9-1-1 service (e.g. one request for Phase I and another request for Phase II). However, please be aware that if you have not previously requested or implemented E9-1-1 Phase I, Sprint PCS will be performing all of the steps necessary to implement Phase I service before converting you to Phase II.

In order to validate your request and determine the technical specifications necessary for deployment in your area, please provide the following information:

- For a PSAP requesting CAS routing for E9-1-1 Phase II:[1&2]
  - Has your Emergency Service Provider (generally, your LEC) made the necessary upgrades to its E9-1-1 selective router/tandem in order to be able to receive, process, and forward to you up to 45 digits of Phase II data?
  - Have you upgraded your trunks to SS7 from your Emergency Service Provider's E9-1-1 selective router/tandem to your premise in order to be able to receive the Phase II data?
  - Does your premise equipment currently allow for the receipt and utilization of the location latitude/longitude and the location uncertainty[3] sent by Sprint PCS?

For a PSAP requesting Hybrid CAS routing for E9-1-1 Phase II:[2][4]

Has your Emergency Service Provider (generally, your LEC) made the necessary upgrades to its E9-1-1 selective router/tandem in order to be able to receive, process, and forward to your ALI the up to 45 digits of Phase II data?

- Has your ALI database provider (generally, your LEC) made the necessary upgrades to the ALI in order to deliver the location latitude/longitude and the location uncertainty[3] to your premise equipment?

Does your premise equipment currently allow for the receipt and utilization of the location latitude/longitude and the location uncertainty sent by Sprint PCS?

For a PSAP requesting NCAS routing for E9-1-1 Phase II:[5]

Do you have the necessary agreements or arrangements in place with Sprint PCS or a third party NCAS solution provider for an NCAS routing solution?

Has your ALI database provider (generally, your LEC) made the necessary upgrades to the ALI to support an E2 interface (pull interface) between your ALI and the Sprint PCS or third party Mobile Positioning Center/ALI database?

If you are expecting to receive updated location data, does your ALI database provider have the capability to support a re-bid to the Sprint PCS or third party MPC/ALI database? Also, does your premise equipment have the capability to re-bid your ALI for a location update?

Does your premise equipment currently allow for the receipt and utilization of the location latitude/longitude and the location uncertainty[3] sent by Sprint PCS?

Sprint PCS is implementing a handset-based E9-1-1 Phase II location capability on its network. Per the FCC mandate, handsets supporting this Phase II location technology are to be phased in through December 31, 2005. It is important for public safety to understand that Sprint PCS will only be providing Phase II location accuracy with subscribers who have purchased the new location-capable handsets which will become available starting on October 1, 2001. For all other subscribers, the PSAP will be receiving Phase I location accuracy.

If you have any questions, please feel free to give me a call.

Sincerely,

Susan Q Willwood

Footnotes:

[1] CAS routing for E9-1-1 Phase II must comply with J-STD-036.

[2] Due to the limitations associated with CAS routing, you will be unable to get updated location information after the call is routed.

[3] Location Uncertainty is a parameter that indicates the estimated accuracy of the geographic location provided.

[4] Hybrid CAS routing for E9-1-1 Phase II is not compliant with J-STD-036 and will be treated by Sprint PCS as a CAS routing solution from our MSC to your Emergency Service Provider's E9-1-1 selective router/tandem.

[5] NCAS routing for E9-1-1 Phase II must comply with J-STD-036.

From: Sherwood, Susan
Sent: Monday, May 07, 2001 9:20 AM
To: Propst, Jim; Green, Jeanna
Subject: FW: Phase II Request

-----Original Message-----
From: Gary L. Young [mailto:gyn911@wf.quik.com]
Sent: Monday, May 07, 2001 7:09 AM
To: Sherwood, Susan
Subject: Phase II Request

Dear Ms. Sherwood,

I received your letter in the mail on May 4th in reply to my ORDER for Phase II service. If you will be so kind as to check your records, you will find that this district does have Phase I service working from Sprint PCS. You should also remember Sprint PCS was extremely late in implementing the Phase I service and did so only after many complaints from this office.

When you check your records, you will find that we utilize an NCAS solution. So, the answer to your question (s) is yes. I understand about the handset solution and how the location information will be displayed. Please keep in mind I have ORDERED the Phase II service from Sprint and fully expect service as of October 1, 2001.

Yours truly,
Gary L. Young
Executive Director
(940) 723-8225

CERTIFICATE OF SERVICE

I, Jo-Ann Monroe, do hereby certify that on this 30th day of July 2001, copies of the foregoing Sprint PCS Supplemental Phase II Implementation Report and Request for Temporary and Limited Waiver were served by U.S. first-class mail, postage prepaid, to the following:

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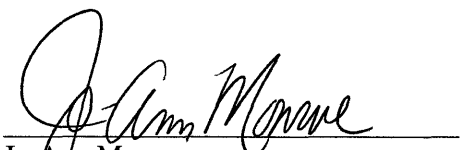

Jo-Ann Monroe